NEXCOM International Co., Ltd.

# Industrial Computing Solutions

# Industrial Motherboards

# NEX 611

User Manual

**NEXCOM International Co., Ltd.**
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www.nexcom.com

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# PREFACE

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## Acknowledgements

NEX 611 is a trademark of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

## Regulatory Compliance Statements

This section provides the FCC compliance statement for Class B devices and describes how to keep the system CE compliant.

## Declaration of Conformity

### FCC

This equipment has been tested and verified to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

### CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

## RoHS Compliance

### NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2002/95/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

### How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2006 will be RoHS compliant. They will use the usual NEXCOM naming convention.

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# Warranty and RMA

### NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

### NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the "NEXCOM RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NEXCOM RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NEXCOM to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

### Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

### System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

### Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

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## Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

## Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

## Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

## Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needlenose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

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## Safety Precautions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.
7. Do not leave this equipment in either an unconditioned environment or in a above 40°C storage temperature as this may damage the equipment.
8. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
9. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
10. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
13. Never pour any liquid into an opening. This may cause fire or electrical shock.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
15. If one of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.

    b. Liquid has penetrated into the equipment.

    c. The equipment has been exposed to moisture.

    d. The equipment does not work well, or you cannot get it to work according to the user's manual.

    e. The equipment has been dropped and damaged.

    f. The equipment has obvious signs of breakage.
16. Do not place heavy objects on the equipment.
17. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
18. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
19. The computer is provided with CD drives that comply with the appropriate safety standards including IEC 60825.

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## Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   - Product name and serial number
   - Detailed information of the peripheral devices
   - Detailed information of the installed software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.
2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.
3. CompactFlash: Turn off the unit's power before inserting or removing a CompactFlash storage card.

## Conventions Used in this Manual

Warning: Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution: Information to avoid damaging components or losing data.

Note: Provides additional information to complete a task easily.

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# Global Service Contact Information

## Headquarters

**NEXCOM International Co., Ltd.**
15F, No. 920, Chung-Cheng Rd., ZhongHe District, New Taipei City, 23586, Taiwan, R.O.C.
Tel: +886-2-8226-7786
Fax: +886-2-8226-7782
www.nexcom.com.tw

## America

### USA

**NEXCOM USA**
2883 Bayview Drive,
Fremont CA 94538, USA
Tel: +1-510-656-2248
Fax: +1-510-656-2158
Email: sales@nexcom.com
www.nexcom.com

## Asia

### Taiwan

**Taichung Office**
16F, No.250, Sec. 2,
Chongde Rd., Beitun Dist.,
Taichung City 406, R.O.C.
Tel: +886-4-2249-1179
Fax: +886-4-2249-1172
www.nexcom.com.tw Japan

**NEXCOM Japan**
9F, Tamachi Hara Bldg.,4-11-5, Shiba Minato-ku,
Tokyo, 108-0014, Japan
Tel: +81-3-5419-7830
Fax: +81-3-5419-7832
Email: sales@nexcom-jp.com
www.nexcom-jp.com

### China

**NEXCOM China**
2F, Block 4, Venus Plaza, Building 21,
ZhongGuanCun Software Park, No.8,
Dongbeiwang West Road, Haidian District,
Beijing, 100193, China
Tel: +86-10-8282-5880
Fax: +86-10-8282-5955
Email: sales@nexcom.cn
www.nexcom.cn

**Shanghai Office**
Room 1505, Greenland He Chuang Bldg.,
No. 450 Caoyang Rd.,
Shanghai, 200062, China
Tel: +86-21-6150-8008
Fax: +86-21-3251-6358
Email: sales@nexcom.cn
www.nexcom.cn

**Nanjing Office**
Hall C, Block 17, Tian Xing Cui Lang Bldg.,
No. 49 Yunnan North Rd.,
Nanjing, 210018, China
Tel: +86-25-8315-3486
Fax: +86-25-8315-3489
Email: sales@nexcom.cn
www.nexcom.cn

**Shenzhen Office**
Western Room 708, Block 210,
Tairan Industry & Trading Place, Futian Area,
Shenzhen, 518040, China
Tel: +86-755-833 7203
Fax: +86-755-833 7213
Email: sales@nexcom.cn
www.nexcom.cn

**Wuhan Office**
1-C1804/1805,Mingze Liwan, No.519
South Luoshi Rd,Hongshan District,
Wuhan,430070,China
Tel: +86-27-8722-7400
Fax: +86-27-8722-7400
Email: sales@nexcom.cn
www.nexcom.cn

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### Chengdu Office
Chengdu Office 9F,Shuxiangxie,Xuefu Garden, No.12 Section 1,South Yihuan Rd,Chengdu, 610061,China
Tel: +86-28-8523-0186
Fax: +86-28-8523-0186
Email: sales@nexcom.cn
www.nexcom.cn

## Europe
### France
### NEXCOM France
La Grande Arche-Paroi Nord
92044 Paris La Défense
France
Tel: +33 (0) 1 40 90 33 35
Fax: +33 (0) 1 40 90 31 01
Email: sales.fr@nexcom.eu
www.nexcom.eu

### Germany
NEXCOM GmbH
Leopoldstraße Business Centre,
Leopoldstraße 244,
80807 Munich, Germany
Tel: +49-89-208039-278
Fax: +49-89-208039-279
Email: sales.de@nexcom.eu
www.nexcom.eu

### Italy
NEXCOM ITALIA S.r.l
Via Gaudenzio Ferrari 29,
21047 Saronno (VA), Italia
Tel: +39 02 9628 0333
Fax: +39 02 9286 9215
Email: nexcomitalia@nexcom.eu
www.nexcomitalia.it

### United Kingdom
### NEXCOM EUROPE
10 Vincent Avenue,
Crownhill Business Centre,
Milton Keynes, Buckinghamshire
MK8 0AB, United Kingdom
Tel: +44-1908-267121
Fax: +44-1908-262042
Email: sales.uk@nexcom.eu
www.nexcom.eu

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# Chapter 1: Introduction

Thank you for purchasing NEXCOM NEX 611 motherboard, a reliable motherboard produced under NEXCOM consistently stringent quality control. It delivers excellent performance with robust design conforming to NEXCOM commitment to quality and endurance.

In this manual, chapter 1 and 2 contains the introduction of the motherboard and step-by-step hardware installation guide. Chapter 3 and 4 contains the configuration guide of BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on NEXCOM website without further notice. You may find the latest VGA cards and CPU support list on NEXCOM website as well. NEXCOM website http://www.nexcom.com
If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
http://www.nexcom.com/Inquiry/InquiryModel

## 1.1 Package Contents

NEXCOM NEX 611 Motherboard

(Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)

NEXCOM NEX 611 Quick Installation Guide

NEXCOM NEX 611 Support CD

2 x Serial ATA (SATA) Data Cables

1 x Serial ATA (SATA) HDD Power Cables

1 x I/O Panel Shield

## 1.2 Specifications

| | |
|---|---|
| **Platform** | Mini-ITX Form Factor: 6.7-inx 6.7-in, 17.0 cmx 17.0 cm |
| | All Solid Capacitor design (100% Japan-made high quality Conductive Polymer Capacitors) |
| **CPU** | Supports AMD Embedded G-Series APU T56N/ T48E/ T40E |
| | Supports AMD Virtualization Technology |
| **Chipset** | AMD A50M/ A55E Controller Hub |
| **Memory** | Single Channel DDR3 memory technology |
| | 2x 204-pin DDR3 SO-DIMM slots |
| | T56N supports DDR3 1333/ 1066 MHz SDRAM, T48E/ T40E supports DDR3 1066 MHz SDRAM |
| | Max. capacity of system memory: 8GB (see CAUTION 1) |

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| | |
|---|---|
| **Expansion Slots** | 1x PCI Express 2.0 x4 slot (PCIE1: x4 mode) |
| | 1x Mini-PCI Express slot (Half size) |
| **Graphics** | AMD Radeon HD 6320 with T56N, AMD Radeon HD 6250 with T48E/ T40E |
| | Supports Pixel Shader 5.0, DirectX 11 |
| | Max. shared memory 256MB |
| | Three VGA Output options: D-Sub, LVDS and HDMI |
| | Supports D-Sub with max. resolution up to 2560 x 1600 @ 60Hz for T56N or 1920 x 1200 for T48E/ T40E |
| | Supports 2-CH/24bits LVDS with max. resolution up to 1920x1200 @ 60Hz (Optional) |
| | Supports HDMI 1.3a Technology with max. resolution up to 1920x1200 @ 60Hz (Optional) |
| **Audio** | 2 CH Audio (Realtek ALC662 Audio Codec) |
| **LAN** | 2 x Gigabit LAN 10/100/1000 Mb/s |
| | Realtek RTL8111E |
| | Supports Wake On LAN |
| | Supports LAN Cable Detection |
| | Supports Energy Efficient Ethernet 802.3az |
| | Supports Dual LAN |
| | Supports PXE |

| | |
|---|---|
| **Rear Panel I/O** | 1 x PS/ 2 Mouse/ Keyboard Port |
| | 1 x D-Sub Port |
| | 2 x HDMI Ports (Optional) |
| | 2 x Serial Ports (RS-232/ 422/ 485) |
| | 6 x Ready-to-Use USB 2.0 Ports |
| | 2 x RJ-45 LAN Ports with LED (ACT/ LINK LED and SPEED LED) |
| | HD Audio Jacks: Line Out/ MIC In |
| **SATA3** | 4 x SATA3 6.0 Gb/s connectors, support RAID (RAID 0, RAID 1, RAID 5 and RAID 10), NCQ, AHCI and Hot Plug (Raid is not supported by AMD A50M) |
| **Connectors** | 4 x SATA3 6.0 Gb/s connectors |
| | 4 x COM port headers |
| | 1 x LVDS header (Optional) |
| | 1 x Printer port |
| | 1 x Mini SATA slot |
| | 1 x TPM header |
| | 1 x CPU Fan connector (1 x 4-pin) |
| | 1 x Chassis Fan connector (1 x 3-pin) |
| | 4 pin 12V power connector |
| | SATA power connector |
| | Front panel audio connector |
| | 3 x USB 2.0 headers (support 6 USB 2.0 ports) |
| | 1 x Vertical Type A USB |

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| | |
|---|---|
| **BIOS Feature** | 32Mb AMI UEFI Legal BIOS with GUI support |
| | Supports "Plug and Play" |
| | ACPI 1.1 Compliance Wake Up Events |
| | Supports jumperfree |
| | SMBIOS 2.3.1 Support |
| **Support CD** | Drivers |
| **Hardware Monitor** | CPU/ Chassis Temperature Sensing Monitor |
| | CPU/ Chassis/ Power Fan Tachometer |
| | CPU/ Chassis Quiet Fan |
| | Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore |
| **OS** | Microsoft® Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ VistaTM/ VistaTM 64-bit/ XP/ XP 64-bit compliant |
| **Certifications** | FCC, CE, WHQL |

For detailed product information, please visit our website: http://www.nexcom.com

### WARNING

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using third-party overclocking tools. Overclocking may affect your system's stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking

### CAUTION!

1.Due to the operating system's limitation, the actual memory size of the reservation for system usage under Windows® 32-bit operating systems may be less than 4GB. Windows® 64-bit operating systems have no such limitation.

## 1.3 Unique Features

### NEXCOM Instant Flash

NEXCOM Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access NEXCOM Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

### NEXCOM Crashless BIOS

NEXCOM Crashless BIOS allows users to update their BIOS without fear of failing. If power loss occurs during the BIOS update process, NEXCOM Crashless BIOS will automatically finish the BIOS update procedure after regaining power. Please note that BIOS files need to be placed in the root directory of your USB disk. Only USB2.0 ports support this feature.

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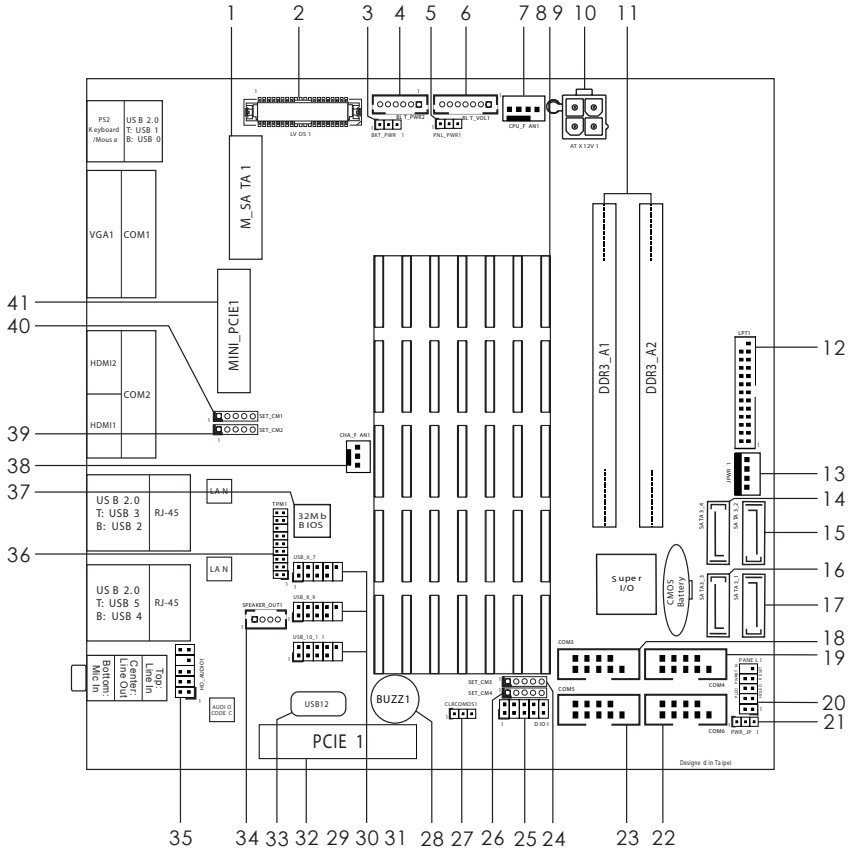
# 1.4 Motherboard Layout



1 Mini SATA Slot (M_SATA1)
2 LVDS Connector (LVDS1)
3 Backlight Power Jumper (BKT_PWR1)
4 Inverter Power Control Header (BLT_PWR2)
5 Panel Power Jumper (PNL_PWR1)
6 Backlight & Amp Volume Control Header (BLT_VOL1)
7 CPU Fan Connector (CPU_FAN1)
8 CPU
9 AMD A50M/A55E Chipset
10 4-pin ATX 12V Power Connector
11 2 x 204-pin DDR3 SO-DIMM Slots (DDR3_A1, DDR3_A2, Black)
12 Printer Port (LPT1)
13 SATA Power Connector (JPWR1)
14 SATA3 Connector (SATA3_4, White)
15 SATA3 Connector (SATA3_2, White)
16 SATA3 Connector (SATA3_3, White)
17 SATA3 Connector (SATA3_1, White)
18 COM Port Header (COM3)
19 COM Port Header (COM4)
20 System Panel Header (PANEL1)
21 PWR-On Mode Jumper (PWR_JP1)
22 COM Port Header (COM6)
23 COM Port Header (COM5)
24 COM Power Setting Jumper (SET_CM3)
25 Digital I/O Header (DIO1)
26 COM Power Setting Jumper (SET_CM4)
27 Clear CMOS Jumper (CLRCMOS1)
28 Buzzer (BUZZ1)
29 USB 2.0 Header (USB6_7)
30 USB 2.0 Header (USB8_9)
31 USB 2.0 Header (USB10_11)
32 PCI Express Slot (PCIE1)
33 Vertical Type A USB (USB12)
34 Audio AMP Output Speaker Header (SPEAKER_OUT1)
35 Front Panel Audio Header (HD_AUDIO1)
36 TPM header (TPM1)
37 SPI Flash Memory (32Mb)
38 Chassis Fan Connector (CHA_FAN1)
39 COM Power Setting Jumper (SET_CM2)
40 COM Power Setting Jumper (SET_CM1)
41 Mini PCI Express Slot (MINI_PCIE1)

* FOptional

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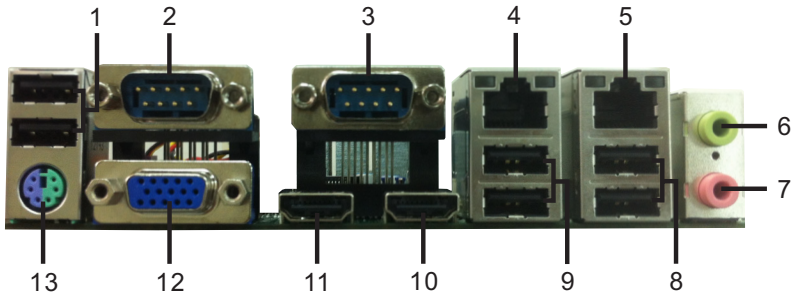
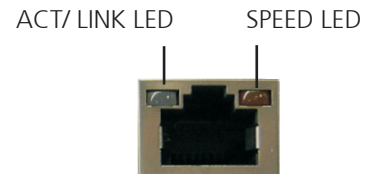
# 1.5 I/O Panel




- 1 USB 2.0 Ports (USB01)
- 2 Serial Port (COM1)
- 3 Serial Port (COM2)
- 4 LAN RJ-45 Port (LAN2)
- 5 LAN RJ-45 Port (LAN1)
- 6 Front Speaker (Lime)
- 7 Microphone (Pink)
- 8 USB 2.0 Ports (USB45)
- 9 USB 2.0 Ports (USB23)
- 10 HDMI Port (HDMI1)
- 11 HDMI Port (HDMI2)
- 12 D-Sub (VGA1)
- 13 PS/ 2 Keyboard/ Mouse Port

- There are two LED next to the LAN port.
  Please refer to the table below for the LAN port LED indications.

**LAN Port LED Indications**




**LAN Port**

Activity/ Link LED

| Status | Description |
|---|---|
| Off | No Link |
| Blinking | Data Activity |
| On | 100Mbps connection |

Activity/ Link LED

| Status | Description |
|---|---|
| Off | 10Mbps connection |
| Orange | 100Mbps connection |
| Green | 1Gbps connection |

* Optional

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# Chapter 2: Installation

This is a Mini-ITX form factor motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

### Pre-installation Precautions

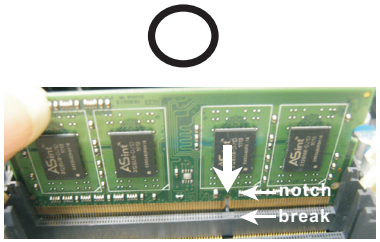
Take note of the following precautions before you install motherboard components or change any motherboard settings.

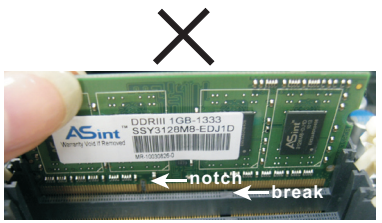
1. Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.
2. In order to avoid damage from static electricity to the motherboard's components, NEVER place your motherboard directly on a carpet. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any components, place them on a grounded anti-static pad or in the bag that comes with the components.
5. When placing screws to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

## 2.1 Installing Memory Modules (DIMM)

This motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots.

Step 1. Unlock a DIMM slot by pressing the retaining clips outward.
Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.




The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

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## 2.2 Expansion Slots (PCI Express Slots)

There is 1 PCI Express slot and 1 mini PCI Express slot on this motherboard.

**mini-PCIE Slots:** mini_PCIE1 is used for mini PCIE cards.

**PCIE slots:** The x4 lane width PCIE1 (PCIE 2.0 x4 slot) is used for PCI Express expansion cards.

### Installing an expansion card

Step 1. Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

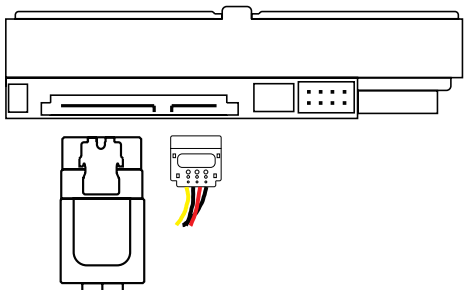
Step 3. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 4. Fasten the card to the chassis with screws.

## 2.3 Installing SATA Hard Disks

Step 1. Connect the SATA power cable to the hard disk.

Step 2. Connect one end of the SATA data cable to the hard disk.



Step 3. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

### Serial ATA3 Connectors

(SATA3_1: see p.10, No. 17)

(SATA3_2: see p.10, No. 15)

(SATA3_3: see p.10, No. 16)

(SATA3_4: see p.10, No. 14)

These four Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

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# 2.4 Power Connectors

### ATX 12V Power Connector

(4-pin ATX12V1)

(see p.10, No.10)

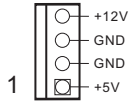
Please connect a power supply to this connector.

### SATA Power Connector

(4-pin JPWR1)

(see p.10, No.13)

It is not necessary to use this connector, but please connect it with a hard disk power connector when two graphics cards are plugged to this motherboard.




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | +5V | 2 | GND |
| 3 | GND | 4 | +12V |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# 2.5 Installing the System Panel

Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

**PWRBTN (Power Switch):**

Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

**RESET (Reset Switch):**

Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

**PLED (System Power LED):**

Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).

**HDLED (Hard Drive Activity LED):**

Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

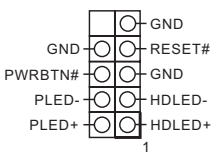
The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

The white wires are negative (Connect to - or GND pins), while the colored ones are positive.

**System Panel Header**

(9-pin PANEL1)

(see p.10, No.20)




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | HDLED+ | 2 | HDLED- |
| 3 | GND | 4 | RESET#1 |
| 5 | GND | 6 | PLED+ |
| 7 | PLED- | 8 | PWRBTN# |
| 9 | GND | | |

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# 2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard!

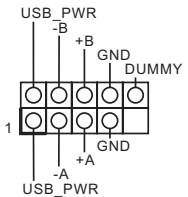
### USB 2.0 Headers

USB 2.0 Headers

(9-pin USB6_7) (see p.10, No. 29)

(9-pin USB8_9) (see p.10, No. 30)

(9-pin USB10_11) (see p.10, No. 31)




(USB12) (see p.10, No. 33)

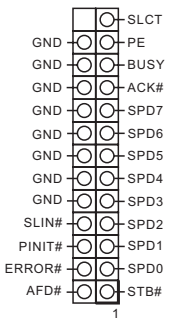
Besides six default USB 2.0 ports on the I/O panel, there are three USB 2.0 headers and one USB port on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | USB_PWR | 2 | -A |
| 3 | +A | 4 | GND |
| 6 | USB_PWR | 7 | -B |
| 8 | +B | 9 | GND |
| 10 | DUMMY | | |

### Print Port Header

(25-pin LPT1)

(see p.10, No.12)




| Pin | Signal Name | Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|---|---|
| 1 | STB# | 2 | SPD0 | 3 | SPD1 |
| 4 | SPD2 | 5 | SPD3 | 6 | SPD4 |
| 7 | SPD5 | 8 | SPD6 | 9 | SPD7 |
| 10 | ACK# | 11 | BUSY | 12 | PE |
| 13 | SLCT | 14 | AFD# | 15 | ERROR# |
| 16 | PINIT# | 17 | SLIN# | 18 | GND |
| 21 | GND | 22 | GND | 24 | GND |
| 25 | GND | | | | |

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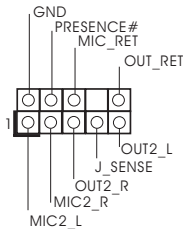
### Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.10, No.35)




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | MIC2_L | 2 | MIC2_R |
| 3 | OUT2_R | 4 | J_SENSE |
| 5 | OUT2_L | 6 | GND |
| 7 | PRESENCE# | 8 | MIC_RET |
| 10 | OUT_RET | | |

1. High Definition Audio supports Jack Sensing, but the panel wire on the chassis must support HDA to function correctly. Please follow the instructions in our manual and chassis manual to install your system.
2. If you use an AC'97 audio panel, please install it to the front panel audio header by the steps below:

   A. Connect Mic_IN (MIC) to MIC2_L.

   B. Connect Audio_R (RIN) to OUT2_R and Audio_L (LIN) to OUT2_L.

   C. Connect Ground (GND) to Ground (GND).

   D. MIC_RET and OUT_RET are for HD audio panel only. You don't need to connect them for AC'97 audio panel.

   E. To activate the front mic.

   **For Windows® XP / XP 64-bit OS:**

   Select "Mixer". Select "Recorder". Then click "FrontMic".

   For Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ VistaTM/ VistaTM

   **64-bit OS:**

   Go to the "FrontMic" Tab in the Realtek Control panel.

   Adjust"Recording Volume".

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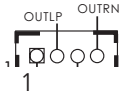
### Audio AMP Output Speaker Header

(4-pin SPEAKER_OUT1)

(see p.10, No.34)



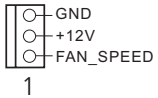

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | SPK L+ | 2 | SPK L- |
| 3 | SPK R- | 4 | SPK R+ |

### Chassis Fan Connector

(3-pin CHA_FAN1)

(see p.10, No.38)

Please connect a fan cable to the fan connector and match the black wire to the ground pin.




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | FAN SPEED | 2 | +12V |
| 3 | GND | | |

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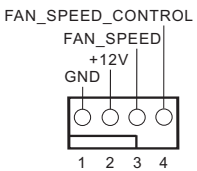
### CPU Fan Connector

(4-pin CPU_FAN1)

(see p.10, No.7)

Though this motherboard provides a 4-Pin CPU fan (Quiet Fan) connector, 3-Pin CPU fans can still work successfully even without fan speed control. If you plan to connect a 3-Pin CPU fan, please connect it to Pin 1-3.




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | GND | 2 | +12V |
| 3 | FAN_SPEED | 4 | FAN_SPEED_CONTROL |

### Serial Port Header

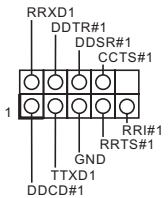
(9-pin COM3)(see p.10, No.18)

(9-pin COM4)(see p.10, No.19)

(9-pin COM5)(see p.10, No.23)

(9-pin COM6)(see p.10, No.22)

These COM headers support serial port modules.




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | DDCD#1 | 2 | TTXD1 |
| 3 | GND | 4 | RRTS#1 |
| 5 | RRI#1 | 6 | RRXD1 |
| 7 | DDTR#1 | 8 | DDSR#1 |
| 9 | CCIS#1 | | |

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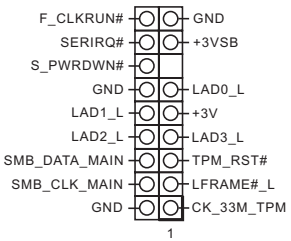
### TPM Header

(17-pin TPM1)

(see p.10, No.36)

This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

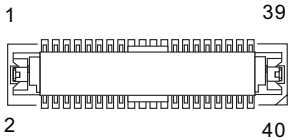



| Pin | Signal Name | Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|---|---|
| 1 | CK_33M_TPM | 2 | LFRAME#_L | 3 | TPM_RST# |
| 4 | LAD3_L | 5 | +3V | 6 | LAD0_L |
| 8 | +3VSB | 9 | GND | 10 | GND |
| 11 | SMB_CLK_MAIN | 12 | SMB_DATA_MAIN | 13 | LAD2_L |
| 14 | LAD1_L | 15 | GND | 16 | S_PWRDWN# |
| 17 | SERIRQ# | 17 | F_CLKRUN# | | |

### LVDS Connector (Optional)

(40-pin LVDS1)

(see p.10, No.2)




| Pin | Definition | Pin | Definition | Pin | Definition |
|---|---|---|---|---|---|
| 1 | LVDS_PWR | 2 | LVDS_PWR | 3 | +3V |
| 4 | DDC_CLK | 5 | DDC_DATA | 6 | LVDS1 D0(-) |
| 7 | LVDS1 D0(+) | 8 | GND | 9 | LVDS1 D1(-) |
| 10 | LVDS1 D1(+) | 11 | GND | 12 | LVDS1 D2(-) |
| 13 | LVDS1 D2(+) | 14 | GND | 15 | LVDS1 D3(-) |
| 16 | LVDS1 D3(+) | 17 | GND | 18 | LVDS1CLK(-) |
| 19 | LVDS1CLK(+) | 20 | GND | 21 | LVDS2 D0(-) |
| 22 | LVDS2 D0(+) | 23 | GND | 24 | LVDS2 D1(-) |
| 25 | LVDS2 D1(+) | 26 | GND | 27 | LVDS2 D2(-) |
| 28 | LVDS2 D2(+) | 29 | LVDS PWR EN | 30 | LVDS2 D3(-) |
| 31 | LVDS2 D3(+) | 32 | GND | 33 | LVDS2 CLK(-) |
| 34 | LVDS2 CLK(+) | 35 | GND | 36 | B/L ENABLE |
| 37 | B/L ADJUST | 38 | BLT_PWR | 39 | BLT_PWR |
| 40 | BLT_PWR | | | | |

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### Inverter Power Control Header (Optional)

(6-pin BLT_PWR2)

(see p.10, No.4)

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | GND | 2 | GND |
| 3 | Panel Backlight Control | 4 | Panel Backlight Enable |
| 5 | Panel Backlight Power | 6 | Panel Backlight Power |

### Backlight & Amp Volume Control Header (Optional)

(7-pin BLT_VOL1)

(see p.10, No.6)

| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | Volume_UP | 2 | Volume_DOWN |
| 3 | PANEL PWR Down | 4 | Panel BackLight UP |
| 5 | Panel BackLight Down | 6 | GND |
| 7 | GND | | |

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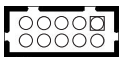
### Digital I/O Header

(10-pin DIO1)

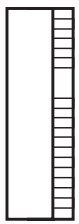
(see p.10, No.25)




| Pin | Signal Name | Pin | Signal Name |
|---|---|---|---|
| 1 | GP4 | 2 | GP0 |
| 3 | GP5 | 4 | GP1 |
| 5 | GP6 | 6 | GP2 |
| 7 | GP7 | 8 | GP3 |
| 9 | +5V | 10 | GND |

### Mini SATA Connector

This mini SATA connector can be used to connect a Solid-State Drive (SSD) for an internal storage device. Or used for USB interface addon cards.



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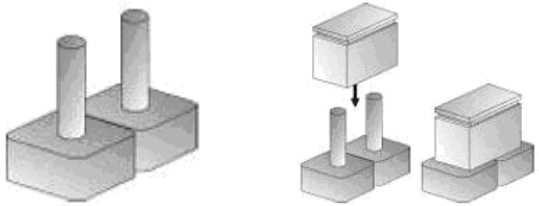
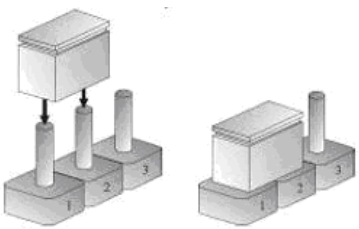
# 2.7 Expansion Slots (PCI, PCI Express and mini-PCIe Slots)

There are 2 PCI slots, 2 PCI Express slots and 1 mini-PCIe slot on this motherboard.



**PCI slots:** PCI slots are used to install expansion cards that have the 32-bit



| Clear CMOS Jumper | |
|---|---|
| **Jumper** | **Setting** |
| (3-pinCLRCMOS1) (see p.10, No.27) | 1_2 2_3 Default Clear CMOS |

CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile, 1394 GUID and MAC address will be cleared only if the CMOS battery is removed.

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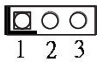
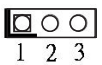
| Backlight Power Jumper | | |
|---|---|---|
| **Jumper** | **Setting** | **Description** |
| (3-pin BKT_PWR1)<br>(see p.10, No.3) | | 1-2 : +5V<br>2-3 : +12V |

| Panel Power Jumper | | |
|---|---|---|
| **Jumper** | **Setting** | **Description** |
| (3-pin PNL_PWR1)<br>(see p.10, No.5) |  | 1-2 : +3V<br>2-3 : +5V |

| PWR-On Mode Jumper | | |
|---|---|---|
| **Jumper** | **Setting** | **Description** |
| (3-pin PWR_JP1)<br>(see p.10, No.21) |  | 1-2 : AT Mode<br>2-3 : AXT Mode |

| COM Power Setting Jumpers | | |
|---|---|---|
| **Jumper** | **Setting** | **Description** |
| (5-pin SET_CM1)<br>(see p.10, No. 40)<br>(5-pin SET_CM2)<br>(see p.10, No. 39)<br>(5-pin SET_CM3)<br>(see p.10, No. 24)<br>(5-pin SET_CM4)<br>(see p.10, No. 26) | | 1-2 : +12V<br>2-3 : +5V<br>4-5 : RRI# |

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# 2.8 Operating System Setup

This motherboard supports various Microsoft® Windows® operating systems: 8/ 8 64-bit/ 7/ 7 64-bit/ Vista™/ Vista™ 64-bit/ XP/ XP 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer your OS documentation for more information.

## 2.8.1 Installing Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ Vista™ / Vista™ 64-bit/ XP/ XP 64-bit without RAID

### Using AHCI Mode

AHCI mode is not supported under Windows® XP.

**STEP 1: Set Up UEFI.**
Press <F2> or <Delete> at system POST. Set AHCI Mode in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

**STEP 2: Install Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ VistaTM / VistaTM 64-bit on your system.**

### Using IDE Mode

**STEP 1: Set Up UEFI.**

Press <F2> or <Delete> at system POST. Set IDE Mode in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

**STEP 2: Install Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ Vista™/ Vista™ 64-bit/ XP/ XP 64-bit on your system.**

## 2.8.2 Installing Windows® 8 64-bit/ 7 64-bit/ VistaTM 64-bit on a HDD Larger than 2 terabytes (2TB) without RAID

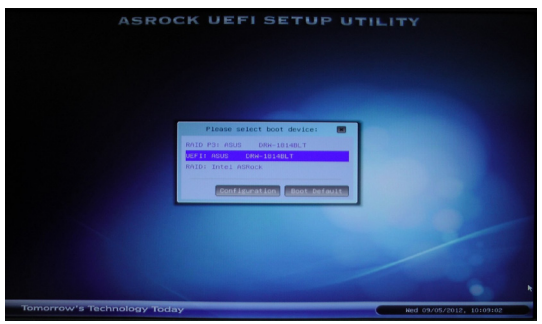
This motherboard adopts UEFI BIOS that allows Windows® OS to be installed on a large size HDD (>2TB). Please make sure to use Windows® VistaTM 64-bit (with SP2 or above), 7 64-bit or 8 64-bit and follow the procedures below to install the operating system.

### Using AHCI Mode

**STEP 1: Set Up UEFI.**

Press <F2> or <Delete> at system POST. Set AHCI Mode in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

**STEP 2: Press <F11> to launch boot menu at system POST and choose the item "UEFI:<Optical disk drive>" to boot.**




**STEP 3: Start Windows® installation.**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### 2.8.3 Installing Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ VistaTM/ VistaTM 64-bit with RAID

RAID mode is not supported under Windows® XP.

**STEP 1: Set Up UEFI.**

Press <F2> or <Delete> at system POST. Set RAID Mode in UEFI Setup Utility > Advanced > Storage Configuration > SATA Mode.

**STEP 2: Use "RAID Installation Guide" to set the RAID configuration.**

**Before you start to configure RAID, you need to check the installation guide in the Support CD for proper configuration. Please refer to the document in the Support CD, "Guide to SATA Hard Disks Installation and RAID Configuration", which is located in the folder at the following path:**

**.. \ RAID Installation Guide**

**STEP 3: Install Windows® 8/ 8 64-bit/ 7/ 7 64-bit/ VistaTM/ VistaTM 64-bit on your system.**

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# 2.9 Installing Drivers

The Support CD that comes with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

## 2.9.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSETUP.EXE" in the Support CD to display the menu.

### 2.9.2 Drivers Menu

The drivers compatible to your system will be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

### 2.9.3 Utilities Menu

The Utilities Menu shows the application softwares that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

### 2.9.4 Contact Information

If you need to contact NEXCOM or want to know more about NEXCOM, you're welcome to visit NEXCOM website at http://www.nexcom.com; or you may contact your dealer for further information.

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# 2.10 Hot Plug and Hot Swap for Hard Disk Drives

This motherboard supports Hot Plug and Hot Swap for SATA3 in AHCI / RAID mode. (Raid is not supported by AMD A50M)

### What is Hot Plug and Hot Swap?

If the HDDs are NOT set for RAID, it is called "Hot Plug" for the action to insert and remove the HDDs while the system is still powered on and in working condition. If the HDDs are set for RAID then it is called "Hot Swap". However, please note that it cannot perform Hot Plug or Hot Swap if the OS has been installed into the HDD.

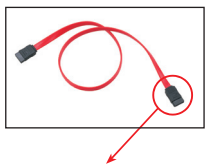
### Hot Plug / Hot Swap Operation Guide

Please read the operation guide of Hot Plug / Hot Swap below carefully. Before you process Hot Plug / Hot Swap, please check the cable accessories from the motherboard gift box pack below.

A. 7-pin SATA data cable

B. SATA power cable with SATA 15-pin power connector interface

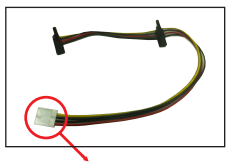
A. SATA data cable (Red)



SATA 7-pin connector

The SATA 15-pin power connector (Black) should be connected to your SATA3 HDD

B. SATA power cable



The 1x4-pin conventional power connector (White) should be connected to a power supply

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**Points for attention, before you process Hot Plug/ Hot Swap:**

1. Without the SATA 15-pin power connector interface, Hot Plug / Hot Swap cannot be processed.
2. Even though some HDDs provide both SATA 15-pin power connectors and IDE 1x4-pin conventional power connectors, IDE 1x4-pin conventional power connector's interface is definitely unable to support Hot Plug / Hot Swap and will cause the HDD damage and data loss.
3. The operation procedure below is designed only for our motherboard which supports Hot Plug / Hot Swap.
   * Hot Plug / Hot Swap might not be supported by the chipset because of its limitation. The support information of our motherboards are indicated in the product spec on our website: www.nexcom.com
4. Make sure your HDDs can support Hot Plug / Hot Swap from your dealer or HDD user manual. HDDs that do not support Hot Plug / Hot Swap will be damaged.
5. Please make sure that the required SATA drivers are installed properly. The latest SATA drivers are available on our support website: www.nexcom.com
6. Make sure to use the SATA power cable & data cable from our motherboard package.
7. Please follow the instructions below step by step to reduce the risk of HDD crash or data loss.

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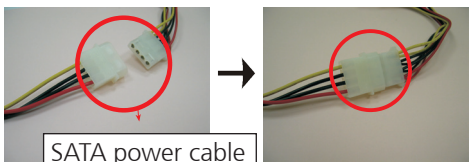
## How to Hot Plug/ Hot Swap a HDD:

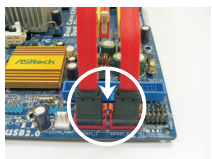
Please follow the instructions below to process Hot Plug/ Hot Swap. Improper procedures will cause the HDD damage and data loss.

**Step 1** Please connect the SATA power cable's 1x4-pin end (White) to the power supply's 1x4-pin cable.



SATA power cable 1x4-pin power connector (White)

**Step 2** Connect the SATA data cable to the motherboard's SATA connector.



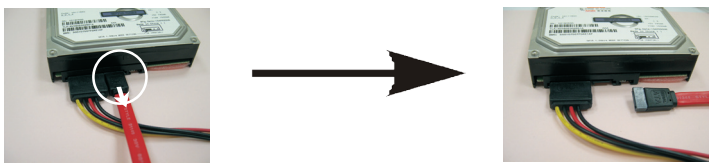
**Step 3** Connect the SATA 15-pin power cable connector's (Black) end to the HDD.

**Step 4** Connect the SATA data cable to the HDD.

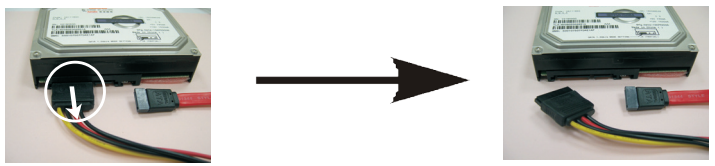
## How to Hot Unplug/ Hot Swap a HDD:

Please follow the instructions below to process Hot Unplug/ Hot Swap. Improper procedures will cause the HDD damage and data loss.

**Step 1** Unplug the SATA data cable from the HDD's side.



**Step 2** Unplug the SATA 15-pin power cable connector (Black) from the HDD's side.

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# Chapter 3: Uefi Setup Utility

## 3.1 Introduction

This section explains how to use the UEFI Setup Utility to configure your system. The UEFI chip on the motherboard stores the UEFI Setup Utility. You may run the UEFI Setup Utility when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI Setup Utility, otherwise, POST will continue with its test routines.

If you wish to enter the UEFI Setup Utility after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

### 3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

| | |
|---|---|
| **Main** | To set up the system time/date information |
| **Advanced** | To set up the advanced UEFI features |
| **H/W Monitor** | To display current hardware status |
| **Boot** | To set up the default system device to locate and load the Operating System |
| **Security** | To set up the security features |
| **Exit** | To exit the current screen or the UEFI SETUP UTILITY |

Use < ← > key or < → > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

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### 3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

| Navigation Key(s) | Function Description |
|---|---|
| ↑ / ↓ | Moves cursor left or right to select Screens |
| ← / → | Moves cursor up or down to select items |
| + / - | To change option for the selected items |
| <Enter> | To bring up the selected screen |
| <F1> | To display the General Help Screen |
| <F7> | Discard changes |
| <F9> | To load optimal default values for all the settings |
| <F10> | To save changes and exit the UEFI SETUP UTILITY |
| <F12> | Print screen |
| <ESC> | To jump to the Exit Screen or exit the current screen |

## 3.2 Main Screen

When you enter the UEFI Setup Utility, the Main screen will appear and display the system overview.

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# 3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Nouth Bridge Configuration, South Bridge Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration, USB Configuration and Trusted Computing.

Setting wrong values in this section may cause the system to malfunction.

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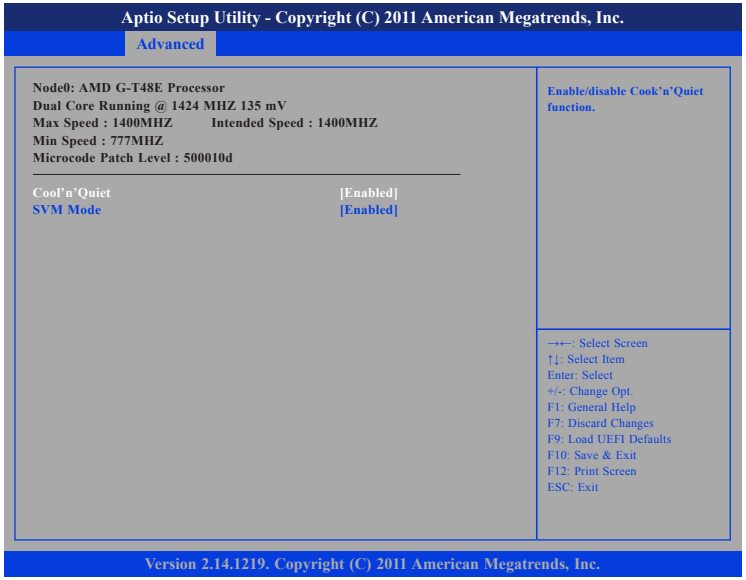
## 3.3.1 CPU Configuration


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
Node0: AMD G-T48E Processor
Dual Core Running @ 1424 MHZ 135 mV
Max Speed : 1400MHZ Intended Speed : 1400MHZ
Min Speed : 777MHZ
Microcode Patch Level : 500010d
Cool'n'Quiet [Enabled]
SVM Mode [Enabled]
Enable/disable Cook'n'Quiet function.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save & Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

### Cool 'n' Quiet

Use this to enable or disable AMD's Cool 'n' QuietTM technology. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. If you have installed Windows® 8/ 7/ VistaTM and want to enable this function, please set to [Enabled]. Please note that enabling this function may reduce CPU voltage and memory frequency, and lead to system stability or compatibility issues with some memory modules or power supplies. Please set this item to [Disabled] if the issues mentioned above occurs.

### SVM Mode

When this is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by AMD-V. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled].

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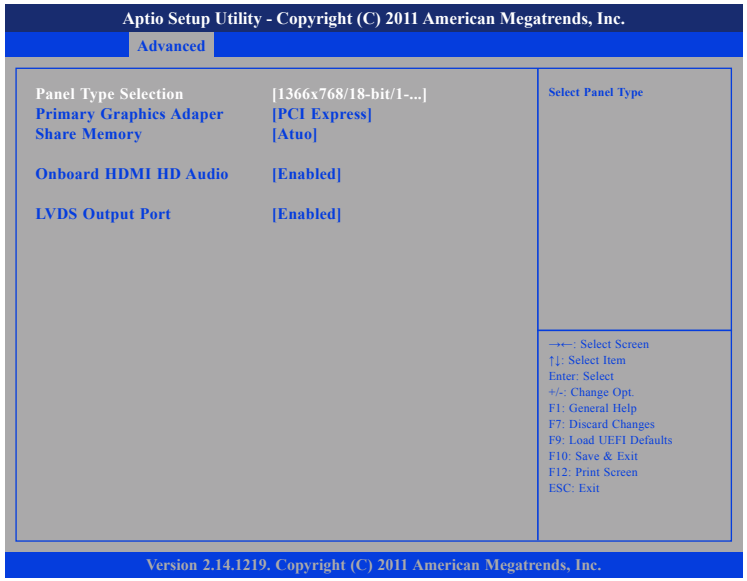
## 3.3.2 North Bridge Configuration




**Panel Type Selection**

Use this to select a panel type.

**Primary Graphics Adapter**

This will switch the PCI Bus scanning order while searching for a video card. It allows you to select the type of Primary VGA in case of multiple video controllers. The default value is [PCI Express].

**Share Memory**

This allows you to configure share memory. The default value is [Auto].

**Onboard HDMI HD Audio**

This allows you to enable or disable the Onboard HDMI HD Audio.

**LVDS Output Port (For models with the LVDS port)**

This allows you to enable or disable the Onboard LVDS.

**HDMI Output Port (For models with the HDMI port)**

This allows you to enable or disable the Onboard HDMI.

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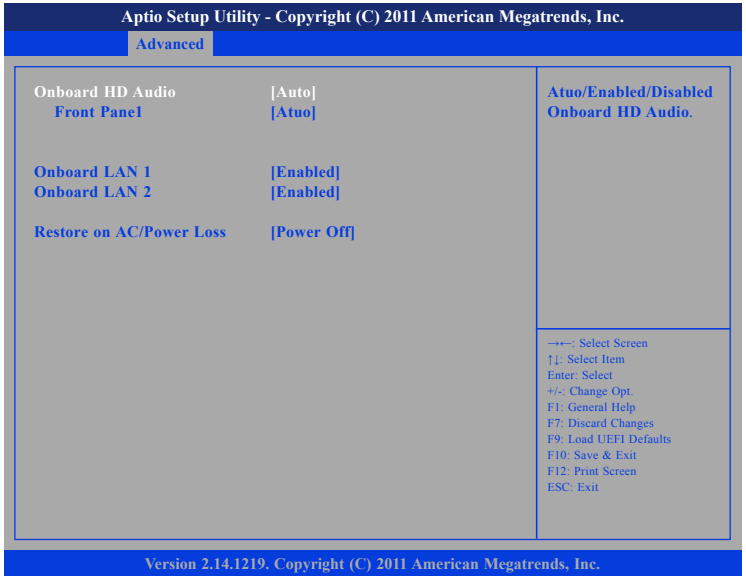
## 3.3.3 South Bridge Configuration




### Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio. If you select [Auto], the onboard HD Audio will be disabled when a PCI Sound Card is plugged.

### Front Panel

Select [Auto] or [Disabled] for the onboard HD Audio Front Panel.

### Onboard LAN 1

This allows you to enable or disable the Onboard LAN 1.

### Onboard LAN 2

This allows you to enable or disable the Onboard LAN 2.

### Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

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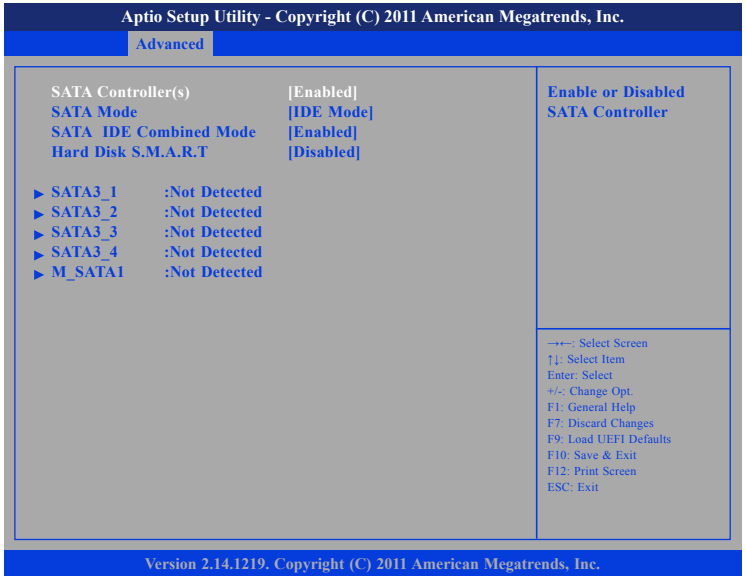
## 3.3.4 Storage Configuration




### SATA Controller

Use this to enable or disable the SATA Controller.

### SATA Mode

Use this to select the SATA mode for SATA3_1 to SATA3_4 ports.
Configuration options: [IDE Mode], [AHCI Mode] and [RAID Mode].
The default value is [IDE Mode]. (Raid is not supported by AMD A50M)

### SATA IDE Combined Mode

Use this to enable or disable SATA IDE combined mode.

### Hard Disk S.M.A.R.T.

Use this to enable or disable S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology).

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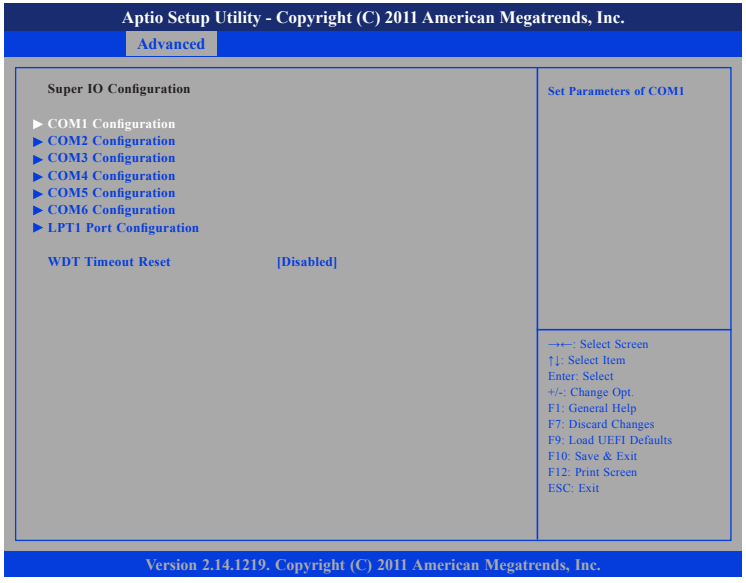
## 3.3.5 Super IO Configuration




**COM1 Configuration**

Use this to set parameters of COM1.

**COM2 Configuration**

Use this to set parameters of COM2.

**COM3 Configuration**

Use this to set parameters of COM3.

**COM4 Configuration**

Use this to set parameters of COM4.

**COM5 Configuration**

Use this to set parameters of COM5.

**COM6 Configuration**

Use this to set parameters of COM6.

**LPT1 Port Configuration**

Use this set parameters of the onboard parallel port.

**WDT Timeout Reset**

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

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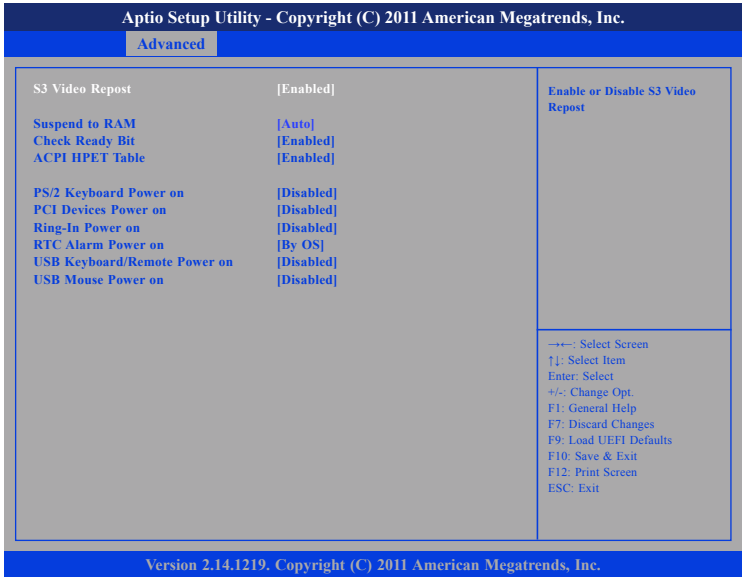
## 3.3.6 ACPI Configuration


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
S3 Video Repost [Enabled]
Suspend to RAM [Auto]
Check Ready Bit [Enabled]
ACPI HPET Table [Enabled]
PS/2 Keyboard Power on [Disabled]
PCI Devices Power on [Disabled]
Ring-In Power on [Disabled]
RTC Alarm Power on [By OS]
USB Keyboard/Remote Power on [Disabled]
USB Mouse Power on [Disabled]
Enable or Disable S3 Video Repost
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save & Exit
F12: Print Screen
ESC: Exit
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### S3 Video Repost

Use this to enable/disable S3 Video Repost. The default value is [Enabled].

### Suspend to RAM

Use this to select whether to auto-detect or disable Suspend-to-RAM. Select [Auto] to enable if the OS supports it.

### Check Ready Bit

Use this to enable or disable Check Ready Bit.

### ACPI HPET Table

Use this to enable or disable the ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this mother-board to submit Windows® Vista™ certification.

### PS/2 Keyboard Power On

Use this to enable or disable the PS/2 keyboard to turn on the system from power-soft-off mode.

### PCI Devices Power On

Use this to enable or disable the PCI devices to turn on the system from power-soft-off mode.

### Ring-In Power On

Use this to enable or disable the Ring-In signals to turn on the system from power-soft-off mode.

### RTC Alarm Power On

Use this to enable or disable the RTC (Real Time Clock) to power on the system.

### USB Keyboard/Remote Power On

Use this to enable or disable the USB Keyboard/Remote to power on the system.

### USB Mouse Power On

Use this to enable or disable the USB Mouse to power on the system.

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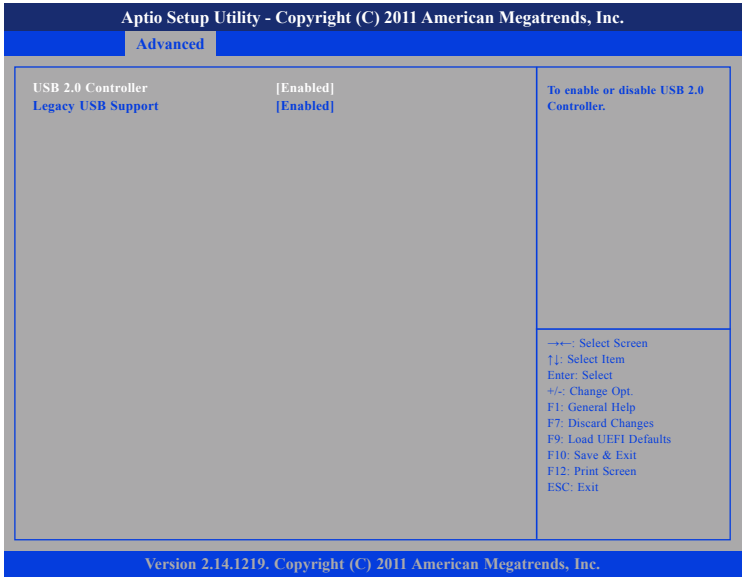
## 3.3.7 USB Configuration


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
USB 2.0 Controller [Enabled]
Legacy USB Support [Enabled]
To enable or disable USB 2.0 Controller.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save & Exit
F12: Print Screen
ESC: Exit
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**USB 2.0 Controller**

Use this to enable or disable the USB 2.0 controller.

**Legacy USB Support**

Use this to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [UEFI Setup Only]. The default value is [Enabled]. Please refer to the descriptions below for details of these four options:

[Enabled] - Enables support for legacy USB.

[Auto] - Enables legacy support if USB devices are connected.

[Disabled] - USB devices are not allowed to be used under legacy OS and UEFI setup when [Disabled] is selected. If you have USB compatibility issues, it is recommended to select [Disabled] to enter the OS.

[UEFI Setup Only] - USB devices are allowed to be used only under UEFI setup and Windows / Linux OS.

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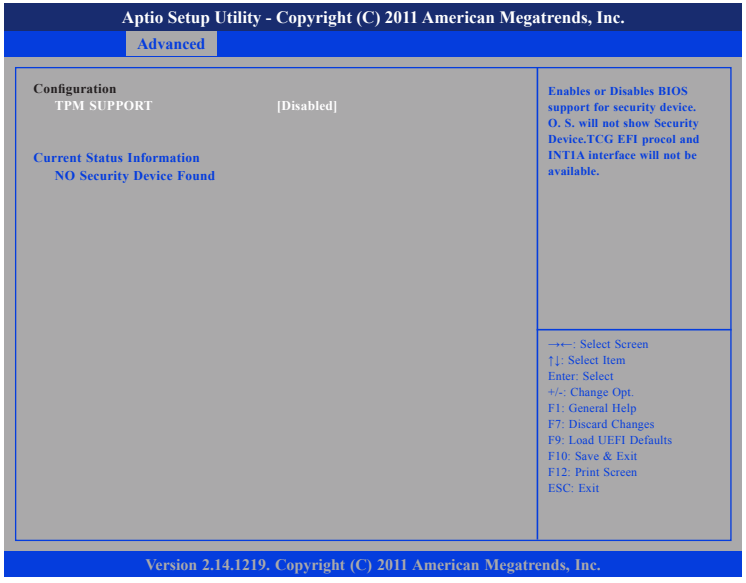
## 3.3.8 Trusted Computing


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
Configuration
TPM SUPPORT
[Disabled]
Current Status Information
NO Security Device Found
Enables or Disables BIOS support for security device. O. S. will not show Security Device.TCG EFI procol and INT1A interface will not be available.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save & Exit
F12: Print Screen
ESC: Exit
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### TPM Support

Use this to enable or disable BIOS support for security devices. The default is [Disabled].

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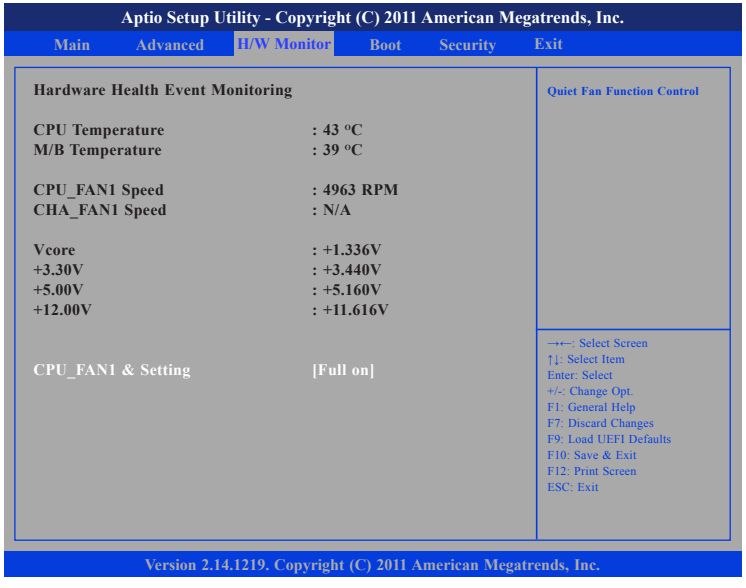
# 3.4 Hardware Health Event Monitoring Screen

This section allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, fan speed and voltage.




### CPU FAN1 Setting

This allows you to set CPU FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].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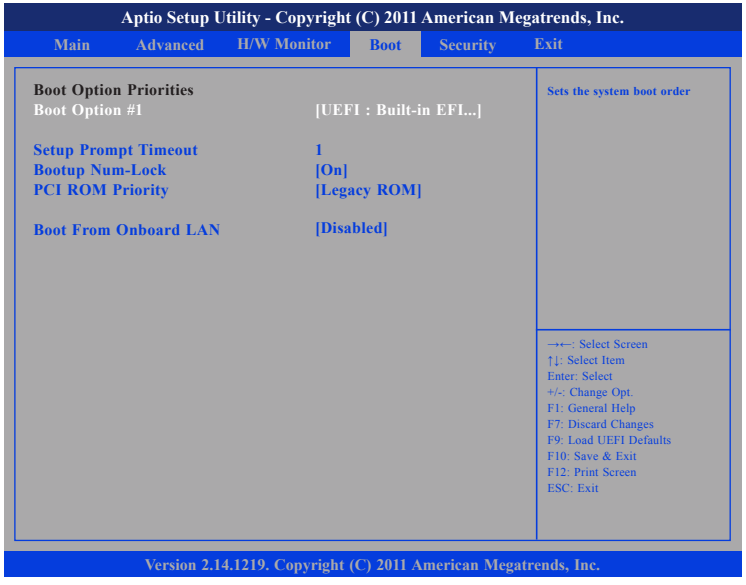
# 3.5 Boot Screen

This section displays the available devices on your system for you to configure the boot settings and the boot priority.




### Setup Prompt Timeout

This shows the number of seconds to wait for the setup activation key.

### Bootup Num-Lock

If this is set to [On], it will automatically activate the Numeric Lock after boot-up.

### PCI ROM Priority

Use this item to adjust PCI ROM Priority. The default value is [Legacy ROM].

### Boot From Onboard LAN

Use this to enable or disable Boot From Onboard LAN.

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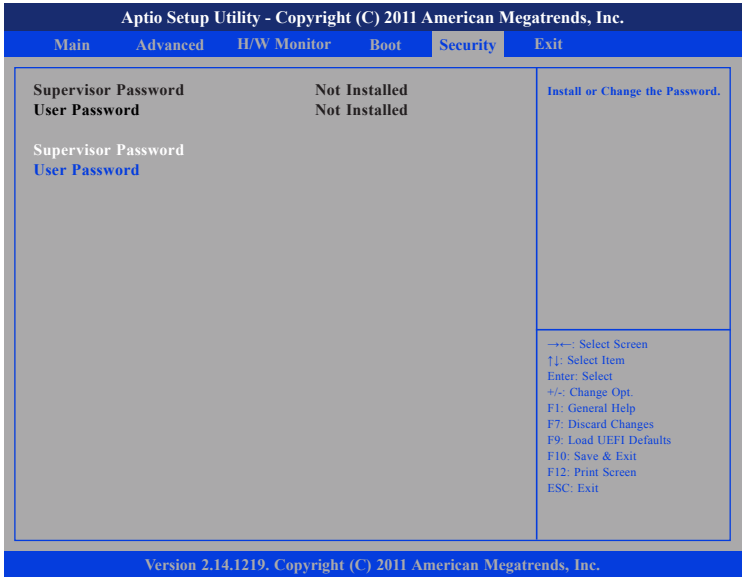
# 3.6 Security Screen

In this section you may set or change the supervisor/user password for the system. You may also clear the user password.

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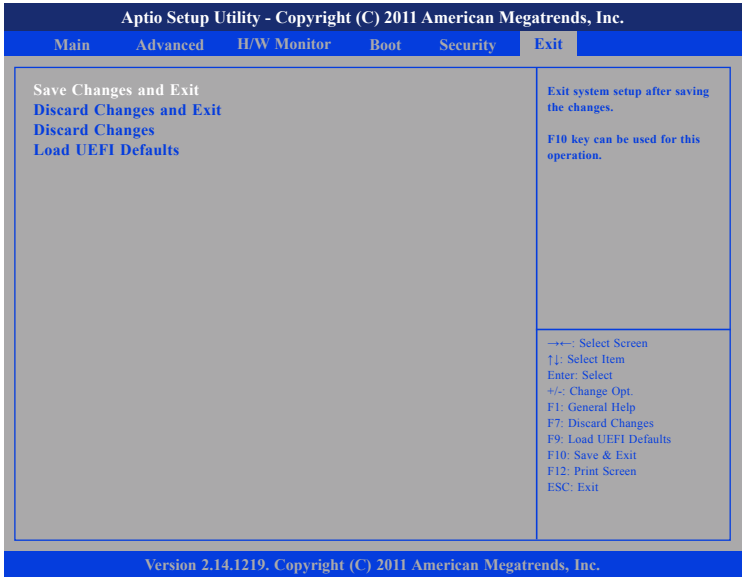
# 3.7 Exit Screen




### Save Changes and Exit

When you select this option the following message, "Save configuration changes and exit setup?" will pop out. Select [OK] to save changes and exit the UEFI SETUP Utility.

### Discard Changes and Exit

When you select this option the following message, "Discard changes and exit setup?" will pop out. Select [OK] to exit the UEFI SETUP Utility without saving any changes.

### Discard Changes

When you select this option the following message, "Discard changes?" will pop out. Select [OK] to discard all changes.

### Load UEFI Defaults

Load UEFI default values for all options. The F9 key can be used for this operation.

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